

IN THE CLAIMS:

1-86. (Canceled).

87. (Currently Amended) A semiconductor device comprising:

a first thin film transistor provided in a matrix pixel circuit over a substrate; and
a second thin film transistor provided in a peripheral driving circuit over said
substrate, each of said first and second thin film transistors comprising:

a crystalline semiconductor island ~~over an insulating surface~~;
source and drain regions in said crystalline semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region; and
a gate electrode adjacent to said channel forming region having said gate
insulating film therebetween,

wherein each of said crystalline semiconductor islands of said first and second thin
film transistors island is formed in a monodomain region which contains no grain boundary,

wherein at least one of hydrogen and halogen element is contained at concentration
not higher than $1 \times 10^{20} \text{ cm}^{-3}$ in said monodomain region,

~~wherein the semiconductor device includes a p-channel thin film transistor having a~~
~~mobility in a range of $200-400 \text{ cm}^2/\text{Vs}$, and~~

wherein each of said crystalline semiconductor islands of said first and second thin
film transistors island includes a nickel at a concentration of $5 \times 10^{17} \text{ cm}^{-3}$ or less, and
wherein a concentration of said nickel in said crystalline semiconductor island of said first
thin film transistor is smaller than that of said nickel in said crystalline semiconductor island
of said second thin film transistor.

88. (Currently Amended) A device according to claim 87, wherein each of said crystalline
semiconductor islands of said first and second thin film transistors island comprises a
material selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au.

89. (Canceled)

90. (Currently Amended) A device according to claim 87, wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ is a silicon island.

91. (Currently Amended) A device according to claim 87, wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ includes carbon and nitrogen at a concentration not lower than $1 \times 10^{16} \text{ cm}^{-3}$, and oxygen at a concentration not lower than $1 \times 10^{17} \text{ cm}^{-3}$.

92. (Previously Presented) A device according to claim 87, wherein said monodomain region has a grain size of 50 μm or more.

93-122. (Canceled)

123. (Currently Amended) A semiconductor device comprising:

a first thin film transistor provided in a matrix pixel circuit over a substrate; and
a second thin film transistor provided in a peripheral driving circuit over said
substrate, each of said first and second thin film transistors comprising:

a crystalline semiconductor island ~~over an insulating surface~~;
source and drain regions in said crystalline semiconductor island;
a channel forming region between said source and drain regions;
a gate insulating film adjacent to at least said channel forming region; and
a gate electrode adjacent to said channel forming region having said gate
insulating film therebetween,

wherein each of said crystalline semiconductor islands of said first and second thin
film transistors ~~island~~ includes carbon and nitrogen at a concentration not higher than 5×10^{18}
 cm^{-3} ,

wherein each of said crystalline semiconductor islands of said first and second thin
film transistors ~~island~~ is formed in a monodomain region which contains no grain boundary,
wherein said semiconductor device has a S value of 0.03-0.3,

wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ includes at least one of hydrogen and halogen element at concentration not higher than $1 \times 10^{20} \text{ cm}^{-3}$ in said monodomain region,

~~wherein the semiconductor device includes at least one selected from the group consisting of a p-channel thin film transistor and an n-channel thin film transistor,~~

~~wherein the p-channel thin film transistor has a mobility in a range of $200\text{--}400 \text{ cm}^2/\text{Vs}$ while the n-channel thin film transistor has a mobility in a range of $500\text{--}1000 \text{ cm}^2/\text{Vs}$, and~~ wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ includes a nickel at a concentration of $5 \text{ [[to]] } \times 10^{17} \text{ cm}^{-3}$ or less, and wherein a concentration of said nickel in said crystalline semiconductor island of said first thin film transistor is smaller than that of said nickel in said crystalline semiconductor island of said second thin film transistor.

124. (Currently Amended) A device according to claim 123, wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ comprises a material selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu, Ag, Au.

125. (Canceled)

126. (Currently Amended) A device according to claim 123, wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ is a silicon island.

127. (Currently Amended) A device according to claim 123, wherein each of said crystalline semiconductor islands of said first and second thin film transistors ~~island~~ includes carbon and nitrogen at a concentration not lower than $1 \times 10^{16} \text{ cm}^{-3}$, and oxygen at a concentration not lower than $1 \times 10^{17} \text{ cm}^{-3}$.

128. (Previously Presented) A device according to claim 123, wherein said monodomain region has a grain size of $50 \mu\text{m}$ or more.

129-136. (Canceled)

137. (Currently Amended) A device according to claim ~~[[87]]~~ 91, wherein each of the concentrations of carbon, nitrogen and oxygen is measured by secondary ion mass spectroscopy (SIMS).

138-142. (Canceled).

143. (Currently Amended) A device according to claim ~~[[123]]~~ 127, wherein each of the concentrations of carbon, nitrogen and oxygen is measured by secondary ion mass spectroscopy (SIMS).

144-148. (Canceled)

149. (Previously Presented) The semiconductor device according to claim 87 wherein said crystalline semiconductor island includes carbon and nitrogen at a concentration not higher than $5 \times 10^{18} \text{ cm}^{-3}$, and oxygen at a concentration not higher than $5 \times 10^{19} \text{ cm}^{-3}$.

150-155. (Canceled)